#### CONTROL OF HAZARDOUS ENERGY

LOCKOUT/ TAGOUT PROGRAM

#### REFERENCES

29 CFR 1910.147

Chapter 29 of Code of Federal
Regulations Occupational Safety and
Health Standards

"The Control of Hazardous Energy
(Lockout/Tagout)"

#### REFERENCES

#### **US DOC OSH MANUAL**

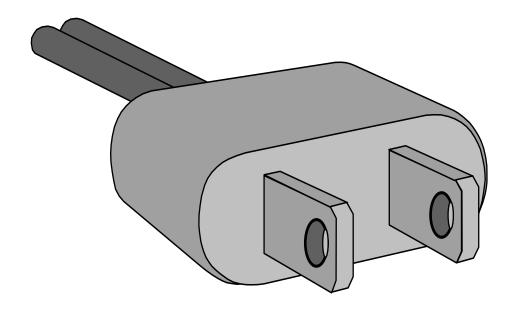
Chapter 18

"Isolation of Energy Sources During the Servicing and Repair of Machines, Equipment and pressurized Systems"

# OCCUPATIONAL SAFETY AND HEALTH REGIONAL SAFETY MANAGER

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### WHAT IS LOCKOUT/TAGOUT?

#### **PURPOSE:**

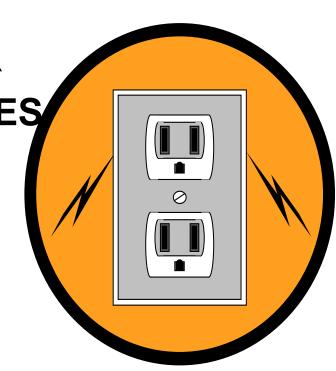
\_ESTABLISH POLICY AND MINIMUM

PROCEDURES FOR

**LOCKING OUT AND/OR** 

TAGGING OUT SOURCES

**OF ENERGY** 



#### **APPLICATION:**

 SERVICING AND MAINTENANCE OF MACHINERY AND EQUIPMENT

 UNEXPECTED RELEASE OF ENERGY OR MOVEMENT OF EQUIPMENT DURING SERVICING OR MAINTENANCE

 THIS INCLUDES ACTIVITIES CLASSIFIED AS CONSTRUCTION OR MARITIME

## ROUTINE PRODUCTION OPERATIONS:

### ARE NOT COVERED BY THIS PROGRAM UNLESS:

GUARDS OR SAFETY DEVICES ARE REMOVED

BODY PARTS ARE PLACED IN THE POINT OF OPERATION AREA

### NOTE!!

### MINOR TOOL CHANGES AND ADJUSTMENTS,

"IF ROUTINE, REPETITIVE, AND INTEGRAL"

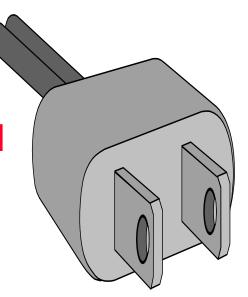
TO THE USE OF EQUIPMENT ARE NOT COVERED IF ALTERNATIVE PROTECTIVE MEASURES ARE EMPLOYED

## APPLICATIONS THAT DO NOT APPLY:

Ship board operations which are covered in NC Instruction 5100.1B "Safety Standards for Ships of the NOAA Fleet"

Electrical utilization installations

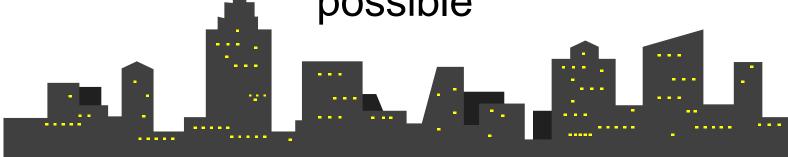
Work on cord and plug connected equipment



#### **GENERAL POLICY:**

# EACH FACILITY <u>SHALL</u> ISOLATE AND RENDER INOPERATIVE THROUGH:

Lockout/Tagout devices all machinery and equipment which may cause injury or property damage when possible



#### GENERAL POLICY: CON'T

- LOCKOUT/TAGOUT SHALL ONLY BE PERFORMED BY AUTHORIZED EMPLOYEES
- AUTHORIZED EMPLOYEES SHALL
   BE DESIGNATED BY THEIR LINE
   SUPERVISOR AND TRAINED

#### AUTHORIZED EMPLOYEE

A PERSON WHO LOCKS OUT OR TAGS OUT MACHINES OR EQUIPMENT IN ORDER TO PERFORM SERVICING OR MAINTENANCE

#### AFFECTED EMPLOYEE

AN EMPLOYEE WHOSE JOB
REQUIRES HIM/HER TO OPERATE
OR USE A MACHINE OR EQUIPMENT
UNDER LOCKOUT/TAGOUT

# POLICY CHANGE AND UPDATE?

#### **SHALL OCCUR WHEN:**

- MAJOR REPLACEMENT
- REPAIR
- RENOVATION
- MODIFICATION

OF MACHINERY OR EQUIPMENT IS REPLACED OR INSTALLED



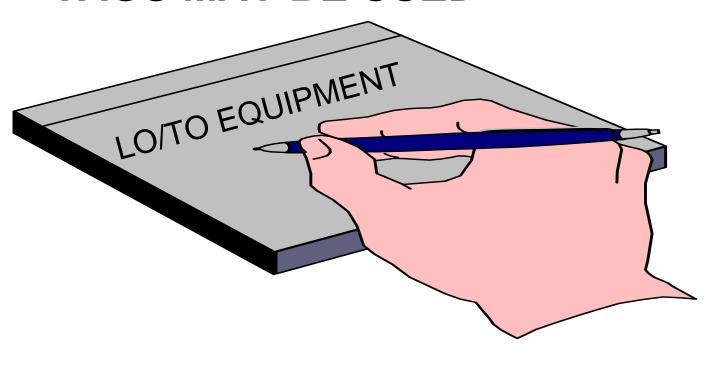
#### GENERAL PROCEDURES

BEFORE DE-ENERGIZING EQUIPMENT, PERSONNEL MUST KNOW:

- TYPE AND MAGNITUDE OF ENERGY INVOLVED
- THE HAZARDS INVOLVED
- METHODS OF CONTROL

#### **REQUIRED LIST!**

TYPE OF EQUIPMENT AND APPLICATION WHERE LOCKS OR TAGS MAY BE USED



#### LOCKOUT DEVICES

 SHALL BE INSTALLED BY AUTHORIZED PERSONNEL ONLY

SHALL BE INSTALLED IN A MANNER WHICH WILL HOLD THE DEVICE IN A "SAFE" OR "OFF" POSITION



# LOCKOUT/TAGOUT DEVICES AND HARDWARE:

LOCKS

KEY BLOCKS

TAGS

ADAPTER PINS

CHAINS

SELF-LOCKING FASTENERS

WEDGES

### LOCKOUT DEVICES AND HARDWARE:

- LOCKOUT DEVICES SHALL BE SINGULARLY IDENTIFIED AND THE ONLY DEVICES USED TO CONTROL ENERGY
- LOCKS SHALL BE STANDARD IN SIZE AND COLOR
- LOCKS SHALL BE STRONG ENOUGH TO PREVENT REMOVAL WITHOUTKEY
- NO TWO LOCKS OR KEYS SHALL BE THE SAME
- CONTROL OF KEYS MUST BE MAINTAINED BY AUTHORIZED PERSONNEL

#### TAGOUT DEVICES:

- TAGS SHALL BE STANDARD IN SIZE AND COLOR
- TAGS SHALL BE WEATHER PROOF
- TAGS SHALL NOT BE REUSABLE TYPE
- TAGS SHALL BE STRONG ENOUGH TO PREVENT REMOVAL WITHOUT EXCESSIVE FORCE

### LOCKOUT/TAGOUT DEVICES AND HARDWARE:

#### **LOCKS AND TAGS SHALL:**

IDENTIFY USER, SHOP, CODE, PHONE NO. #, SUPERVISOR, DATE APPLIED, AND EQUIPMENT OR MACHINE EFFECTED.

#### TAGOUT DEVICES

- SHALL INDICATE OPERATION OR MOVEMENT OF <u>"SAFE"</u> OR <u>"OFF"</u> POSITION OF DEVICE
- WHERE POSSIBLE, SHALL BE AFFIXED TO THE ENERGY ISOLATING DEVICE OR AS CLOSE AS POSSIBLE

#### TAGOUT DEVICES:

### TAGOUT DEVICES SHALL INCLUDE ONE OF THE FOLLOWING:

DO NOT OPEN

DO NOT CLOSE

DO NOT ENERGIZE

DO NOT OPERATE

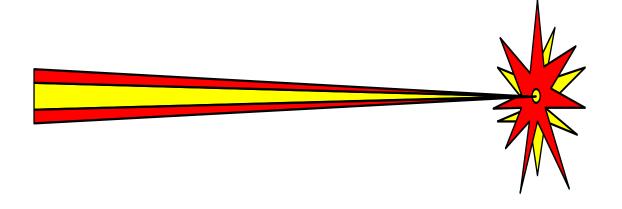


## ADDITIONAL SAFETY MEASURES

- Remove isolating circuit (fuse or circuit breaker)
- Blocking of a controlling device
- Opening of an additional disconnect or relief valve.
- Removal of a valve handle

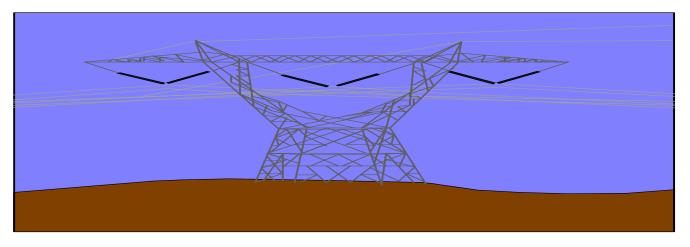
#### STORED ENERGY SHALL:

- BE RELIEVED
- DISCONNECTED
- RESTRAINED
- OR OTHERWISE RENDERED <u>"SAFE"</u>



#### REACCUMULATION OF STORED ENERGY

 VERIFICATION OF ISOLATION IS REQUIRED BEFORE WORK IS BEGUN IF THERE IS A POSSIBILITY OF REACCUMULATION OF HAZARDOUS ENERGY



### TEMPORARY REMOVAL OF LOCKOUT/TAGOUT DEVICES:

Clear machine of tools and equipment
 Ensure equipment is operationally intact

Remove all personnel not required for testing

# TEMPORARY REMOVAL OF LOCKOUT/TAGOUT DEVICES (CONT):

- Verify employees are in a safe location
- Remove lockout/tagout devices
- Energize and proceed with testing
- De-energize and reapply lockout/tagout devices

### ACTIVITY SPECIFIC ENERGY CONTROL PROCEDURES

**ACTIVITIES SHALL:** 

\*\* DEVELOP AND USE SPECIFIC WRITTEN PROCEDURES FOR SERVICING AND MAINTENANCE

\*\* HAVE A SINGLE WRITTEN

PROCEDURE FOR SIMILAR MACHINES
WITH SAME TYPE AND MAGNITUDE
OF ENERGY

# PROCEDURES ARE NOT NEEDED WHEN:

 Equipment has no potential for stored energy

Single energy source which can be readily isolated

 Lockout/Tagout will completely deactivate machine or equipment

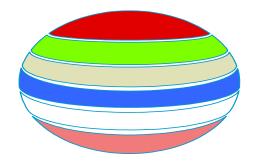
## TRAINING AND COMMUNICATION

- TRAINING SHALL BE PROVIDED TO AUTHORIZED PERSONNEL
- ALL AFFECTED EMPLOYEES
- ALL EMPLOYEES WHOSE WORK
   AREAS AND OPERATIONS ARE
   EFFECTED

#### EMPLOYEE RETRAINING

### SHALL BE PROVIDED FOR ALL AUTHORIZED OR AFFECTED EMPLOYEES WHEN:

- THEIR IS A CHANGE IN THEIR JOB, MACHINES, EQUIPMENT OR PROCESSES THAT PRESENT NEW HAZARDS
- THERE IS A CHANGE IN THE ENERGY CONTROL PROCEDURE
- INSPECTION REVEALS DEFICIENCIES





### DOCUMENTATION OF TRAINING SHALL INCLUDE:

- Employee's name
- Date of training

EMPLOYER SHALL CERTIFY THAT
EMPLOYEE TRAINING HAS BEEN
ACCOMPLISHED AND UP-TO-DATE

#### PERIODIC INSPECTION

SHALL BE CONDUCTED BY AN AUTHORIZED EMPLOYEE OTHER THAN THE ONE UTILIZING THE ENERGY CONTROL PROCEDURE:

AFTER AN ACCIDENT

OR

AT LEAST ANNUALLY



# PERIODIC INSPECTION (CONT)

TO CORRECT ANY DEFICIENCIES

REVIEW OF EACH AUTHORIZED EMPLOYEE'S RESPONSIBILITIES

### REQUIREMENTS FOR GROUP LOCKOUT OR TAGOUT

 PROCEDURES SHALL AFFORD THE SAME LEVEL OF PROTECTION AS PERSONAL LOCKOUT/TAGOUT DEVICES

EACH AUTHORIZED EMPLOYEE SHALL AFFIX A PERSONAL LOCKOUT/TAGOUT DEVICE TO THE GROUP LOCKOUT DEVICE AND REMOVE IT WHEN THE WORK IS COMPLETE

#### CONTRACTOR REQUIREMENTS

SHALL INFORM EACH OTHER OF THEIR RESPECTIVE PROCEDURES

 MUST INFORM ACTIVITY OF CONTRACTOR LOCKOUT/TAGOUT PROCEDURES

#### Questions

If you have any questions or concerns please contact the MASC Regional Safety Manager at (303) 497-3912 or Rhonda.S.Carpenter@noaa.gov.